

PIEZOELECTRIC ELEMENT

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Inventor: FUJINAKA YUJI
Applicant: MATSUSHITA ELECTRIC IND CO LTD
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Abstract of JP7045882

PURPOSE: To obtain a piezoelectric element whose baking temperature can be lowered, whose crystal particle size can be made dense and in which the attenuation factor of elastic waves is reduced, by a method wherein a Ti-Zr-Pb-oxide-based piezoelectric plate which contains zino and niobium is used as a main component and a specific oxide is added as a subcomponent.

CONSTITUTION: A compound expressed by the formula is used as a main component for the piezoelectric plate of a piezoelectric element: values for (x), (y) and (z) are set at $0.1 \leq x \leq 0.5$, $0.12 \leq y \leq 0.75$ and $0.125 \leq z \leq 0.865$ and $(x)+(y)+(z)=1$. $Pb(M_{1/2}W_{1/2})O_3$ is used as a subcomponent, where 0.5 to 10.0wt. % of M which is represented by at least one kind out of Co, Ni, Cu and Zn is added and this mixture is baked temporarily. Then, the mixture is crushed and dried, a bonding agent is added, and this mixture is granulated, pressurized and formed into a disk. Then, the disk is baked again, a silver electrode is formed. Then, the piezoelectric element is obtained. Thereby, its baking temperature can be lowered, its crystal particle size is made dense, its attenuation factor of elastic waves is reduced, and its piezoelectric characteristic such as an electromechanical coupling coefficient or the like can be enhanced.



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